

Appl. No. 09 / 915,363  
Amtd. dated June 9, 2004  
Prelim. Amendt.

12

**Remarks:**

The foregoing amendments are to put the application into better condition for examination.

The description of Figure 25 on page 30 of the original description has been amended to make it clearer that the dimensions given in the description were obtained by calculation or computer modelling and were not necessarily the practical values to be used in the fabrication process. The skilled person would know that different fabrication processes have different resolution capabilities and that the "numerical resolution" of 1 nm used by the modelling software would have to be constrained by whatever factor was appropriate for the chosen fabrication method. This is evident from Figure 25 which has two branches. The left-hand branch illustrates the process of determining the waveguide structure *per se*. The right-hand branch illustrates the process of determining the architecture of the grating itself. The first box in the right-hand branch lists "Dimension resolution" as one of the inputs to the architecture determination. This Dimension resolution is determined by the chosen fabrication process.

The reference to "transitions", which would have needed replacing because "interfaces" was used in the description, has been replaced by language specifying that the difference in the physical characteristics results in a difference in the propagation constants. It is submitted that no new subject matter has been added since these features are inherent in optical grating filters, as can be seen from the book by Pochi Yeh, i.e., reference [12] cited on page 31 of the specification.

On page 4, the statement of invention corresponding to original, independent claim 11 has been amended to reflect the fact that the claim has been cancelled, and the supporting paragraph on page 30, lines 18-20 has been deleted. The other two statements of invention have been amended to reflect the wording of new claims 36 and 68, respectively.

The paragraph beginning on page 13, at line 30, has been amended to explain that, for a space, the refractive index is that of the medium in the space, as per new claim 68.

On page 25, the description of the two- and three-dimensional gratings has been clarified.

The foregoing amendments do not add subject matter but, apart from the cancellations, render the claims and description clearer, which should facilitate examination.

Respectfully submitted,

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Date

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